International Eye Foundation

Second
Annual Report
SightReach® Management

Sustainability Planning and
Capacity Building for
Sustainable Eye Care Services

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Acronyms

AMO	Assistant Medical Officer
ASAPROSAR	Asociación Salvadoreña Pro-Salud Rural
BCCEIO	British Columbia Centre for Epidemiologic &International Ophthalmology
BHR/PVC	Bureau for Humanitarian Response/Private and Voluntary Cooperation
CBM	Christoffel-Blindenmission
DOSA	Discussion-oriented Self Assessment
ECCE	Extra Capsular Cataract Extraction
GDA	Global Development Alliance
GSF	Good Samaritan Foundation
IAPB	International Agency for the Prevention of Blindness
ICEH	International Centre for Eye Health
IEF	International Eye Foundation
INGDO	International Non-governmental Development Organization
IOL	Intra-ocular Lens
KCCO	Kilimanjaro Center for Community Ophthalmology
KCMC	Kilimanjaro Christian Medical Centre
LAICO	Lions Aravind Institute for Community Ophthalmology
LSFEH	Lilongwe SightFirst Eye Hospital
MG	Matching Grant
MMed	Master of Medicine
MOHP	Ministry of Health and Population
NGO	Non-governmental Organization
OPD	Out Patient Department
OT	Operating theatre
QA	Quality Assurance
QECH	Queen Elizabeth Central Hospital
SE	Social Enterprise
SIS	Small Incision Surgery
SRM	SightReach® Management
SRP	SightReach® Prevention
SRS	SightReach Surgical®
SSI	Sight Savers International
USAID	United States Agency for International Development
VOSH	Volunteer Optometric Services to Humanity
WHO	World Health Organization

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Executive Summary

The Second Annual Report represents activities under the International Eye Foundation's SightReach® program entitled *"SightReach Management: Sustainability planning and capacity building for sustainable eye care services"* financed by Cooperative Agreement No.: FAO-A-00-99-00053-00, and with a project life from September 28, 1999 – September 27, 2004. The activities include components of IEF's SightReach program:

1. SightReach® Management, eye hospital sustainability planning and the primary focus of the matching grant program,

2. SightReach Surgical ®, IEF's social enterprise, and

3. "Seeing 2000" sub-grants to hospitals supporting pediatric eye care surgery,

The "*Seeing 2000" Revised and Expanded*, IEF's pediatric surgery intervention is not included in this report as the current Cooperative Agreement No. FAO-0158-A-00-5015-00 supporting pediatric surgery was extended until March 2002. The annual and final "Seeing 2000" reports are submitted under separate cover. Additionally, IEF's Strategic/Business Plan is also a separate document.

To simplify reporting on these components, the primary focus of this report is the SightReach® Management (SRM) program supporting sustainability planning for eye hospitals. The associated Strategic/Business Plan and SightReach Surgical® are submitted separately.

This report follows the reporting guidelines provided by U.S. Agency for International Development, BHR/PVC/ Matching Grant Division. However, some modification is made to the Annual Report outline in order to address achievements and provide the detail on the SightReach Management partners.

Finally, the reporting period is from January – December, 2001 due to the additional three months reported in the last annual report (through December 2000) and to delays related to September 11th, 2001.

I. Background and summary

Problem

The number of individuals in developing countries with preventable blindness from cataract and other disorders is increasing. According to available data and World Health Organization recommendations, 1,500 cataract operations per million population per year are required to keep up with the incident cataract blindness. The current backlog (prevalence) of cataract blind is estimated to be 16 million and growing.

In developing countries, the majority of the population are poor and do not have health insurance. Increasingly, international and local NGOs, dependent on donations for the majority of recurrent and operational costs, are struggling to continue supporting and/or expand service delivery to meet the growing demand for services.

In the majority of emerging countries, there is a proportion of the population (wealthier) willing to pay for cataract surgery at the present market prices. In these same countries, there is an even greater proportion of the population who can afford to pay for the cost of cataract surgery with an Intra-ocular lens (IOL) provided that costs are lowered to within their paying capacity. A reduction in price can be achieved through the efficient use of resources in a high volume setting. Unfortunately, the current strategies for delivering eye care service do not and will not meet expected needs. This is due to low productivity, inefficient use of resources, inattention to quality, difficulty in attracting and retaining trained personnel, lack of autonomy and control of their resources, and dependency on external resources.

Purpose

There is an imperative to re-design service delivery and management practices that optimize use of the human and financial resources. The IEF SightReach® Management program is based on demonstration of a comprehensive planning approach that leads to institutional and financial self-sufficiency. This type of technical assistance enhances capacities to establish the leadership, systems, and approaches needed to sustain service delivery beyond external funding investments.

Basic principles –

The basic principles governing financial sustainability are:

- Increasing patient volume: To achieve high quality eye care affordable to all economic levels, the eye care hospital must lower the unit cost of surgery to allow pricing that the majority of the population can afford. Increasing volume is achieved by increasing surgical efficiency, standardization and use of auxiliary and para-medical staff.

- Lower unit cost: To achieve greater cost efficiency, a hospital must examine all of its operations and procedures and identify ways to improve efficiency. Of importance are efforts to standardize the process and procedures related to cataract surgery, a surgery amenable to standardization. Further efforts are needed to improve procurement practices that focused on bulk purchase of needed surgical consumable supplies, often the major cost in surgery.

- Improve quality: Improving quality is essential to efficiency in the processes of delivering services and in achieving improved surgical outcome. The primary strategy for improving quality is based on adopting modern micro-surgical techniques and intra-ocular lens implantation. Modern Extra Capsular Cataract Extraction with IOL (ECCE/IOL) done well, results in a dramatic visual outcome with permanent vision correction. (Thick "cataract" glasses are no longer needed).

- Establishing cost recovery mechanism based on affordable prices: The choice of using profit from paying patients to subsidize the services and surgery for the poor is a fundamental step needed to achieve financial self-sufficiency, as well as, to create services that can expand to meet the needs of more people. With careful planning to understand costs and the patient population's ability to pay for services, multi-pricing structures can be established that include $0 to accommodate the poor.

This approach is an adaptation of social-enterprise business planning. Central to the approach is creating teamwork and partnership with the hospital, articulation of the desired goals and outcomes, and gap analysis between the current status of service delivery and capacity and the desired results.

Typically, the planning process involves developing strategies to identify more patients, improve quality, and improve management of human and financial resources. Assessment includes research on the paying capacity of the target population; analysis of the hospital's potential surgical output and the processes of patient identification and patient flow through. With most of the SRM partners, there are major investments to improve and or develop clinical and management systems; provide technical training (surgery, technician training, equipment maintenance); and creation or redesign of outreach services. Outreach services target the poor populations through comprehensive diagnostic screening campaigns that identify operable cataract in the community and encourage these patients to return to the hospital on the same day of examination. These

patients invariable receive free surgery and on return to their communities becoming living examples of the quality of services available. These 'aphakic motivators' advertise services to their peers stimulating an increase in the number of self-referred 'walk-in' patients fueling long-term patient growth.

SightReach® Management Strategy –

The target groups for SightReach® Management are a wide range of eye hospitals and clinics (quasi-governmental, non-governmental, and private) in developing countries. Selection of a partner requires examining the political will, leadership, organizational structure, and technical capacity to undertake re-design of their service delivery and management systems in order to serve the poor.

The Detailed Implementation Plan (DIP) described a total of four to six hospital/ clinic partners to receive IEF technical assistance and funding. As each hospital partner is identified, a formal agreement is made to undertake a specifically designed improvement plan. Each partner is provided supplementary funding through a sub-grant from IEF that support the strategic inputs necessary to achieve the desired changes at the hospital. Thus, funding supports a range of needs from staff support, training, infrastructure, equipment, and medical supplies.

Summary of achievements

During this reporting period IEF provided technical assistance and initiated new partnership relationships with a total of five eye hospitals and two collaborating organizations in Africa, Central America, and India.

1. Lilongwe SightFirst Eye Hospital (LSFEH), Malawi, Africa:
   Continued improvement and consolidation in their sustainability plans:
   - A total of 19,814 patients were screened; 2,182 total surgeries and 1,410 cataract surgeries performed.
   - Realized the first self-earned revenue from patient/ customer fees ($10,330).
   - Hired first ever personnel for management, accounting, stores, and counseling.
   - Developing a computerized MIS systems (under development)
   - Established the countries first Day unit surgery center.
   - Developed a business relationship and established a private optical service earning $58,606 in the first six months ($8,897 goes directly to the hospital).
   - Assisted the second major tertiary hospital eye department to access funding ($1.66 million) to replicate the LSFEH experience.

2. El Magraby Eye Hospital, Cairo Egypt:
   Formalized agreement and plans to support start up of the new Low Pay hospital serving a population of 9.6 million (1996).
   - Formalized an agreement for $160,000 over 2-year period.
   - Conducted site visits and developed plans
   - Conducted exchange training between the hospital and LAICO
   - Conducted 26 planned outreach sessions resulting in 6,787 persons screened and 639 persons receiving cataract surgery.

3. VISUALIZA, Guatemala City, Guatemala:
   Formalized agreement and plans to support start up of a new NGO clinic in Guatemala City serving a population of 2.5 million
   - Formalized agreement in the amount of $40,000 for 1 year.
   - Conducted site visits and developed plans

4. Salvadoran Association for Rural Health (Asociación Salvadoreña Pro-Salud Rural) ASAPROSAR, Santa Anna, El Salvador:
   Formalized agreement and plans to support existing NGO ophthalmology services in Santa Anna serving a population of 6.1 million
   - Formalized agreement for $35,000 over 1 ½ years.
   - Conducted site visits and developed plans

5. Lions Aravind Institute for Community Ophthalmology (LAICO), Madurai, India:
   Formalized agreement and plans to strengthen LAICO's technical and institutional capacity to provide technical assistance to international clientele.
   - Formalized agreement in the amount of $150,000 for 2½ years to support strengthening three capacity areas -- faculty, consulting services, and documentation.

6. Kilimanjaro Center for Community Ophthalmology (KCCO), Moshi, Tanzania:
   Formalized agreement and plans to develop monitoring tools and develop a hospital partner relationship.
   - Formalized agreement in the amount of $50,000 for 1 year to support development of surgical outcome monitoring tools, and to explore development of a relationship with the Eye Department of the Kilimanjaro Christian Medical Center (KCMC) an NGO institution.

A number of other steps were taken to develop strategic partnerships with other international development groups supporting eye care in developing countries for the purpose of raising funding and increasing partnerships supporting sustainability planning.

A total of $587,578 is obligated to partnership sub-grants and a total of $159,114 is disbursed during this reporting period.

II. Monitoring and Evaluation

Monitoring Partner progress

Agreement plans

Each of the SightReach® Management partners develop an action plan specific to meet their needs; the core output indicators stated in the Detailed implementation plan and applied to partner monitoring are the following.

Indicator	Comments
Productivity:	
▪ Number & percent increase in cataract surgical volume (with IOL implantation).	Except for late reports, measurement is not problematic
Efficiency:	
▪ Cost & percent decrease in unit cost of cataract surgery. ▪ Cost & percent decrease in unit cost of outreach services	Not problematic; however, the accuracy of the unit cost calculation is an approximation given the completeness of the total revenue and expenditure analysis.
Quality:	
▪ Number & percent of patients with improved visual outcome from cataract surgery. ▪ Number & percent of patients reporting satisfaction with services.	The recommended WHO standard is: Number of surgical patients with visual acuity < 3/60 in the better eye with the best possible correction reduced to <5 % An alternative standard is: *Surgical patients with visual outcome better than 6/60 (in the better eye with the usual correction) increased from xx% to 95% by time period.* Measuring patient satisfaction with services is problematic due to subjective measurement and literacy of patients.
Financial self-sufficiency:	
▪ Total & percent in revenue/expenses (all sources).	Except for late reports, measurement is not problematic. However, many costs of the hospital are estimated from records and real costs are unknown.
Access:	
▪ Number & percent persons screened at outreach session and accepting surgery.	Not problematic.
▪ Number & percent persons served by gender and socio-economic level.	Measuring 'socio-economic status' is problematic, subjective, relative, and country/ site specific. Measuring the number of free vs. subsidized and paying patients may be more appropriate, e.g., - *At least 60-80% of patients receive free surgical services by time period.* - *Increase ratio of women/men receiving surgery from xx/xx% to 66/44% by time period.*

Improvements

Refinements in the indicators are expected as IEF gains experience implementing changes with its SRM partners. Steps to be taken during the 2002 reporting period will concentrate on:

1) Documenting all activities with each partner and continue to refine a series of outputs, activities and their corresponding indicators, and

2) Developing a standard planning template to assist partners organize and monitor their plans.

LAICO

To assist in improving monitoring and documentation IEF developed a formal relationship with the Lions Aravind Institute for Community Ophthalmology (LAICO) in Madurai, India. One of the major activities in the agreement is to develop case studies, consulting tools, templates and manuals that can be adapted to any eye hospital setting. The testing of these tools should result in further refinement and standardization of indicators.

LogFRAME

During the reporting period, IEF headquarters began a process to improve its own planning, monitoring and evaluation capacity. In June 2001 a consultant from the TeamTechnologies, Inc. was contracted for training in the Program Cycle Management and LogFRAME methods. This methodology and accompanying software are being applied to the SightReach® Management program. Extending this training to each hospital partner and to LAICO is currently underway.

Monitoring outcome results

Developing standardized outcome indicators

The development and testing of standard outcome indicators was planned in partnership with Dr. Paul Courtright and the B.C. Centre for Epidemiology and International Ophthalmology (BCCEIO). However, as reported in the First Annual Report, the Christoffel-Blindenmission (CBM), SightSavers International (SSI), and the International Centre for Eye Health (ICEH) selected the Lions SightFirst Eye Hospital (LSFEH), the same site IEF intended to begin with, as a test center for a multi-center study. Based on this, IEF's plans were postponed.

During this reporting period, the above multi-center study was initiated at several hospitals including LSFEH. Although the detailed protocol is not made available to IEF, the study consisted of measuring the post-surgical visual outcome of cataract surgery

patients to determine whether there is an optimal period for follow up and also to test sampling methods. Data on 500 cataract surgery patients was collected and entered into an EpiInfo database, but these results were not provided to IEF.

In addition, during this period, Dr. Courtright (and his wife Dr. Susan Lewallen) made the decision to depart the BCCEIO and establish a similar institution in Moshi, Tanzania. Despite the absence of the multi-center Malawi results, IEF still plans to investigate issues related to measuring surgical outcome and institutionalization of the methods and systems during 2002. This will be accomplished in collaboration with Dr. Courtright, now at the new Kilimanjaro Center for Community Ophthalmology (KCCO), in Moshi, Tanzania. A partnership agreement was awarded to the KCCO for this purpose.

Prevalence and outcome survey results

The final report on a population-based survey conducted in a rural district in Malawi investigating cataract and trachoma, was completed during this reporting period and is included as an attachment. As reported in the First Annual Report, this survey was conducted during late 1999 and provides IEF additional experience in the complexity of conducting baseline survey measurements.

A total of 13,258 residents of Chikwawa district, in the Lower Shire Valley, were enumerated and 2,599 residents (19.6%) examined including 1,215 children ≤6 years and 1,384 adults ≥50 years of age. The results of the survey indicate a number of important findings including:

- The age and sex adjusted prevalence of bilateral blindness <6/60 from all causes was 6.2% (61.5/1000).
- The age and sex adjusted prevalence of unilateral blindness <6/60 from all causes 7.9% (79.4/1000).
- Cataract remains the leading cause of blindness (40%).
- The number of blind and visually impaired has increased from an estimated 7,595 in 1983 to 51,254 in 1999. Even though the prevalence of blindness has decreased slightly, there is a 6.7 fold increase in the number of blind.
- Blindness in females (66%) is twice the blindness rate of males (33%).
- The cataract surgical coverage remains low at 35.6%.
- Among those who received cataract surgery, only19% of eyes had a good surgical outcome (≥6/18 in the best-corrected eye).
- Based on the estimated prevalence of cataract in adults ≥50 years of age in the district, there are 47,288 blind and visually impaired persons (VA <6/18), and at least 3,335 bilaterally blind persons from cataract who would benefit from surgery.

Among the persons with a history of cataract surgery examined (21), only one patient received ECCE surgery with an IOL. Among the remaining aphakic persons (without lenses) only 20% had aphakic spectacles on examination, 33% were still blind, and only 19% had good vision. Further analysis by eyes reveals that over half (52.4%) of eyes had a poor outcome. (WHO recommends <5% of eyes with a poor outcome).

These results are not surprising given the rapid increase and aging among the total national population while the surgical output has been low. Additionally, the results reflect the human resources available in Malawi prior to 1999 and the level of training and surgical methods practiced. Due to the lack of ophthalmologists, the country depended upon a few Clinical Officers trained to perform Intra Capsular Cataract Extraction (ICCE) surgery requiring use of corrective glasses. This surgical method is appropriate and if performed well is a good surgery. ICCE surgery also requires few inputs, and can be performed at district hospitals at low cost by trained Clinical Officers with good results. However, ICCE surgery is dependent on provision aphakic glasses, which are easily broken or lost, and without which there is a poor visual outcome.

Concerning the cataract surgical coverage, these results must also be put into context. In Chikwawa district, and in most other districts, there is one Ophthalmic Medical Assistant (OMA), responsible for eye care. Given this constraint and the limited number of surgical visits by the Clinical Officer per year, usually no more than four, a cataract surgical coverage rate of 35% is reasonable. These results provide a retrospective history of the standard of care practiced before ECCE with an IOL was put into wide practice, in part due to the influence of IEF programs. This conclusion supports the necessity to adopt policy for practice of modern ECCE surgery with an IOL, as one strategy to improve care.

Although the survey was conducted in Chikwawa district in the southern region, the results of the survey can be generalized to other regions where IEF is assisting the LSFEH and the Queen Elizabeth Central Hospital (QECH) with sustainability planning. Conducting a similar survey in each district is not appropriate given the complexity and costs of population based surveys.

Therefore, these results serve as a proxy baseline for the LSFEH in Lilongwe and the QECH in Blantyre (to be engaged in 2002 onwards). Using the estimated prevalence of cataract (13.8%), there are a projected 113,199 cataract cases (VA <6/18), and 15,621 blind persons who would benefit from cataract surgery in the Lilongwe catchment area alone. Based on these numbers, the current surgical output of the LSFEH of approximately 1,500 per year (200% increase from the start of the project) still represents only 10% of the cataract problem.[1]

[1] The total combined cataract surgical volume for the country increased to 4,661.

Although there is great value of conducting surveys, IEF does not have immediate plans to conduct more surveys with other partners due to time and cost constraints. For planning purposes, simpler calculations of estimated blindness prevalence and the total surgical output are sufficient to measure hospital and country performance. As surgical volume increases, refinement of population data may become important.

Status of MTE

The SightReach® program is approaching it's mid-term. IEF remains committed to documenting the results of the sustainability planning approach and there is a growing acceptance and recognition of the importance of these approaches internationally.[2] A participatory mid-term evaluation is desirable and should be scheduled later in the fall of 2002. The mutual needs of IEF, USAID and partners will be discussed, and the terms of reference for an MTE developed in mid-2002.

[2] "Building self-sustainability. It was agreed that the development of self-sustainable programmes was a desirable goal." Recommendations, African Regional Technical Plan from the International Agency for the Prevention of Blindness, Africa Regional Meeting, February, 2002, Durban, South Africa.

III. SightReach® Management Results

Partner countries

The IEF supports it's SightReach® Management hospital partners through sub-grants. Thus, each partner is reported separately.

1. Malawi – Lions SightFirst Eye Hospital, Lilongwe

a. Background

The Lions Sight First Eye Hospital (LSFEH) located on the grounds of the Lilongwe Central Hospital, is the tertiary eye hospital serving the population of Lilongwe City and surrounding districts. The combined population of the Capital City (440,000) and the surrounding nine districts in the central region total 4,066,340 persons (1998 census). The prevalence of blindness is estimated to be 1% of the total population of which 50% of blindness is due to cataract.[3] The other major causes of blindness are glaucoma, corneal blindness due to measles, vitamin A deficiency, and trachoma. Refractive error accounts for approximately 30% of vision loss among adults. More than 70% of all blindness is either treatable or preventable.

The Lions Sight First Eye Hospital (LSFEH) was constructed in 1995 with funds from the Lions Clubs International SightFirst Program (LCIF). This 80-bed hospital is headed by the internationally respected, Dr. Moses Chirambo, who has dedicated his career to developing ophthalmic services in the country. The hospital is also the site for a Regional training center for Ophthalmic Medical Assistants and cataract surgeons, serving the Southern and Central African region. The hospital is also designated as a World Health Organization Collaborating Center.

The LSFEH is IEF's first SightReach® Management (SRM) partner for sustainability planning. Several factors contributed to IEF's choice of the LSFEH including the commitment of Dr. Moses Chirambo and the Ministry of Health, and a strong historical relationship between IEF and Malawi. The LSFEH is typical of the status of ophthalmology in the region characterized by a low but respectable surgical output, basic infrastructure, diverse external support, and a wide range of constraints.

The first activities were initiated in late 1999 utilizing existing IEF resources, and were later extended for three years beginning in January 2001 supported by $152,758 in sub-grant funding. The objectives identified during the planning phase were twofold:

- Demonstrate that high volume cataract surgery (ECCE and IOL) and improved quality and service delivery with a patient focus is feasible.
- Demonstrate that cost-recovery based on user fees is feasible and desirable once increased productivity and improved quality is achieved.

[3] These figures are based on official WHO estimates. Utilizing newer estimates, approximately 13.4 % of persons ≥50 years of age (VA <6/18) have cataract. In the Lilongwe district alone this represents approximately 18,000 persons.

A two-phased approach was determined necessary to overcome skepticism expressed by influential stakeholders. During the startup period, IEF's role was to reassure stakeholders that the purpose of the investment was not simply a 'cost recovery project' but was rather an attempt to comprehensively re-design services to be more productive, efficient and of better quality so that services are valued by patients. This effort also represents a test model for IEF and the MOH to learn how to generate revenue while serving patients.

b. Describe outputs/ achievements

The objectives of the Action Plan are to apply the principles of sustainability planning, demonstrated primarily India and Nepal, to the LSFEH:

1. Increase productivity of cataract surgery
2. Reduce unit costs of cataract surgery
3. Improve surgical quality and patient satisfaction
4. Improve efficiency in outreach services
5. Research and recommend cost recovery options and pricing
6. Strengthen consensus supporting cost recovery.

Over the past two years, IEF has continued to improve the planning process standardizing a logical framework that defines the purpose, outputs, activities, and corresponding indicators. However, to remain consist with previous reporting, data is reported according to the indicators summarized below.

Table 1: LSFEH summary progress

	1997	1998	1999 BL1	2000 BL2	2001
Increase surgical efficiency • Reduce unit cost of cataract surgery to $35 •	$149	$146	$53	$57	$61
Increase surgical productivity ▪ Increase # cataract surgery (walk-in + outreach = Total)	ND ND 449	ND ND 489	ND ND 1,397	ND ND 1,352	500 910 1,410
Improve surgical quality & patient satisfaction ▪ Increase % ECCE/IOL surgery	45%	45%	50%	83%	91%
Improve efficiency in outreach ▪ Reduce unit cost per 'surgery patient acceptor' (outreach)	ND	ND	$300	$12	$20+
Establish cost-recovery mechanism ▪ Increase self earned revenue (OPD, Surgery, Optical)	ND	ND	≤$1,000	≤$2,000	$196 $1,129 $8,897 $10,222

Data reported above highlight a number of important factors.

Unit cost: Calculation of the unit cost for cataract surgery is an estimate of efficiency. The data used in these calculations are an 'off the top' calculation of the total estimated expenditure (all fixed and variable) divided by the number of cataract surgeries. The number of cataract surgeries are a portion of all surgeries that ranges from 45% to 75%. The business model is based on increasing the number of cataract surgeries to >3,500 per annum and controlling fixed costs.

Productivity: The cataract surgery data from 1997-1998 represents the pre-intervention period. Beginning in late 1999, the number of surgeries increased (180%), but has remained relatively constant since that time. Although there is a small increase in the number of surgeries reported, the total is below the 2,500 surgeries targeted. The targets were based on assumptions that the hospital could maintain an average of >60 cataract surgeries per week. The possible reasons for not achieving the targets are competing demands on the limited number of surgeons, and the delayed opening of the Day surgery unit.

Improved quality: Measuring the percentage of cataract surgery performed using Extra Capsular Cataract Extraction (ECCE) with an Intra Ocular Lens (IOL) is one measure of quality. During the pre-intervention phase, the majority of surgery performed was Intra Capsular Cataract Extraction (ICCE) that did not provide an IOL often resulting in reduced visual acuity after surgery. Although there are medical reasons to continue to perform ICCE surgery, the adoption of the ECCE surgery with IOL represents a major policy shift by the hospital that must take place to improve patient satisfaction. Other quality measures are to monitor visual outcome after surgery (1 to 3 months later), which may be beyond the capacity of many hospitals.

Efficient outreach: The development of effective outreach activities is a major element of the sustainability planing. Because the practice of proactively seeking new patients is new cost to the hospital, conducting outreach efficiency is important. Although, there are no standard indicators for this, IEF is using the cost of a patient accepting surgery during the outreach session. The variability in the numbers above, are due to revisions to the composition of the outreach teams, the amount of time spent away (overnight) from the hospital, increased government per diem cost, and perhaps reduced number of persons screened and accepting surgery per outreach session.

Cost recovery: Implementation of cost recovery measures was delayed for a year while renovations were completed. The 2001 revenue data represent only six months beginning July 1st 2001. The majority of revenue comes from the 15% of gross sale of spectacles. Spectacle revenue represents the majority of revenue for the first six months (88%). Although the total revenue earned ($10,222) is relatively small, the important fact remains that the LSFEH is now earning self-earned income that they never had before. These amounts are expected to increase during 2002, especially if the Day surgery unit can increase services from one to three or more days per week.

Table 2 below, summarizes the primary activities during the reporting period. In the left hand column are the activities achieved and reported in the previous annual report. In the right hand column are the achievements during this reporting period.

Table 2: Accomplishments 2001

A. Clinical management practices improved.	
Objective/Activities (bullets activity = year 2000 accomplished)	Accomplishment/ Constraints 2001
1. Demonstrate high volume cataract surgery. ▪ Performance targets set for 60-80 cataract surgeries per week. (These targets represent estimates of what IEF and the hospital considered possible after the LAICO LSFEH technical interchange visits.)	• Total of 1,410 cataract surgeries completed (27 cases per week) *The availability of qualified surgeons remains the most critical constraint to further increase in volume. The SSI surgeon's contract expired in July and the Chief Ophthalmologist is often travelling. A new Malawian ophthalmologist was out of the country for 3 weeks.*
2. Improve micro-surgery skills. ▪ High volume micro-surgical practices demonstrated and practiced by LSFEH surgeons (65% of surgeries completed by staff) ▪ Established wet lab	• Dr. Msosa, the first new Malawian ophthalmologist trained in Kenya is now fully oriented and independent. • Manual sutureless phaco is now standard practice. • Dr. Msukwa, the second Malawian ophthalmologist, returned to Malawi August.
3. Strengthen case management. • Reviewed current OT, ward & OPD practices. • Rearranged OT for better patient flow. • Established standard protocols for (preoperative surgery, Cataract surgery, Operating theatre, Management of uncomplicated cases, Management of complicated cases) • Established standard protocols for wards and OPD. • Reorganized OPD and wards to accommodate more patients.	• Dr. Msosa attended a 2 week training in QA management methods at JHU and another 3 day training in Log Frame program design *Monitoring performance against standard protocols was delayed until the manger is replaced and all systems are operational.*
4. Improve patient satisfaction. • Establish patient counseling services. • Established ECCE surgery with IOL as standard practice. • Established patient satisfaction monitoring system for routine reporting.	• Four Counselors are hired and in place, but require a 3-day in-house clinical orientation to be completed by Nurses. The function of the counselors is to increase the flow of direct walk-in patients. The percentage of IOL surgery to all cataract surgery was high (91%).

B. Quality improved and services redesigned	
Objective/ Activity (bullets activity = year 2000 accomplished)	Accomplishment/ Constraints 2001
1. Strengthen human resource management. • Analyzed and proposed reorganization of department clarifying lines of authority and job functions • Completed HRD Assessment reviewing (Capacity, Planning, Policy, Practices & Training). • Created job descriptions for 11 categories of staff. • Revised organization structure. • Identified staff recruiting needs. • Reassigned nurses to counseling. • Created new positions for Manager, bookkeeper.	• Hospital Manager was hired and in-place • Hospital Accountant hired and in-place • Hospital Stores Keeper hired and in-place • Hospital Counselors (3 of 4) hired and in-place *Recruitment and retaining qualified persons willing to work for hospital level wages has proved difficult. The Manager resigned after 5 months (April – August) for a training opportunity, and the Accountant resigned for a higher paying position with more security in October). The overall organizational and oversight structure via the Management Committee requires strengthening.*
2. Strengthen management and use of information. • Review existing MIS and record keeping system. • Redesigned MIS and reporting system for: - out patient registration, medical records (inpatients & out patients), Admission, ward, discharge, Operating theatre, Outreach camps, Inventory, materials and procurement, Accounting, Quality assurance patient satisfaction OPD/, Inpatient feedback interviews. • Implement mo./qtr. summary reporting. 3. Introduce computers	• Computers (4) provided to the hospital and linked via network. A 5th computer and 2 printers were shipped. - OPD, Managers office, Accountants office, Ward • Computer program to monitor patient statistics and revenue earned in development. • Standard financial and narrative reporting format in-place. *Completing the network and computer program has been very slow due to dependency on one computer consultant and programmer, and lack of basic computer skills of staff. Regular reporting requires further improvement.*

B. Quality improvement and redesign of services continued -	
Objective/ Activity (bullets activity = year 2000 accomplished)	Accomplishment/ Constraints 2001
1. Improve patient environment. • Rearranged wards. • Rearranged OPD. • Reduced length of stay (by increased OT days and transport). • Improved catering services by opening new kitchen services. • Provide patient counseling. • Increased attention to maintenance and security.	• The renovations of the ambulatory (Paying Day) Surgery center were completed 6 months late. The Center officially opened in July, and is only open 1 day week served the first 31 paying patients generating MK79,000. • Complete new optical services (staff, equipment, supplies) under contract w/private business was established. Hospital receives 15% of gross profits and has generated an average of MK639,517 ($9,767) per month. • Security guards hired and in place. • Counseling service in place. *Renovations to the remaining Low pay ward remain uncompleted and implementation of a fee schedule remains uncertain.*
2. Strengthen quality improvement. • Introduced QA concepts. • Established review committee process. • Established patient feedback system. Established staff code of conduct.	• Dr. Msosa attended QA training w/other IEF staff at JHU *A formally organized QA training is desired to support the quality improvement processes. However, further in-house training is dependent on strengthening the LSFEH's organizational structure, governance, and management.*
3. Strengthen support services • One staff sent for equipment maintenance course. • Standardized purchasing and inventory control systems. • Developed list of basic consumables and suppliers. • Created mini-business cafeteria serving patient guardians and staff. • Identified specific role for future optical services.	• A staff persons supported by SSI completed the equipment maintenance course at Aravind. • A central Store was established within hospital and clerk hired and in-place. An inventory control system was established. • Semi-annual purchase of consumables implemented, but cost of shipping medicines remains expensive. • Cafeteria 'business' is growing but requires better management and control. • Optical business was established and earning income. *Procurement of pharmaceuticals requires additional coordination between central hospital pharmacy, eye drop production unit, and donors.*

C. Cost effectiveness improved and financial self-sufficiency improved.	
Objective/ Activity (bullets activity = year 2000 accomplished)	Accomplishment/ Constraints 2001
1. Improve financial planning • Completed review of all fixed and variable costs and revenue sources. • Increased hours of the existing one day paying services. • Introduced concept of outreach camp sponsorship.	• Revenue projections required revision (downwards) due to decrease in patient volume and reduced prices for services. *There is some indecision by management to implement fees at the 'Low pay' ward or to keep all services free of charge.*
1. Create new sources of revenue • Developed financial sustainability plan and established prices for services: general, semiprivate, day surgery, OPD • Tested patient willingness to pay for services. • Planned new optical service business. • Proposed development of local fund raising strategy.	• Prices for service levels were reviewed and fixed to include - OPD-1 (free) MK0 - OPD-2 (paying) MK 250 (paying consultation) - Surgery MK MK500 ,MK1,500, MK5,000 (all costs for surgery) - General wards MK0 (free) - Optical services (at cost) *Implementation of fees delayed until High Pay center completed, behind schedule, July/August. Renovation to the Low Paying Ward remain incomplete.*
2. Strengthen preparations for cost recovery. • Negotiate use of funds with central hospital. • Orient staff to daily expectations supporting cost recovery. • Establish accounting systems. • Educate staff on economic use of resources and accountability. • Drafted renovation plans for day surgery center.	• Site visits made to orient staff and initiate systems *The revenue from OPD-2 not fully in control of the eye department as the Central Hospital keeps 25% of general OPD earnings.*

D. Marketing and outreach services improved.	
Objective/ Activity (bullets activity = year 2000 accomplished)	Accomplishment/ Constraints 2001
1. Strengthen community outreach system. • Redesigned entire outreach strategy and procedures. • Established curriculum and training program. Adopted comprehensive diagnostic team approach. • Clarified schedules and targets per district.	• 25 (estimated) number outreach events completed resulting in 725 persons and 987 patient operated eyes. • SSI now coordinates most of the outreach camps.
2. Improve efficiency. • Established detailed protocols. • Adopted policy to screen, identify and transport patients to base hospital on same day. • Revised patient selection criteria (VA<= 6/60). • Initiated patient counseling. • Reduced unit cost per patient accepting surgery from >$100 to <8 per acceptor. • Create referral networks.	• Unit cost per cataract patient acceptor increased from planned $12 to >$20 per case (Lilongwe area). *Unit costs increased due to increased government per diem and fuel costs. It remains unclear whether there has been reduced percentage patient acceptors per outreach event.*
3. Create awareness for new services. • Developed radio advertisement, poster and megaphone publicity strategy. • Increased number of patients mobilized and cataract patients identified (30 per session). • Identified other new strategies (use of OMAs and traditional authorities).	• General supporting awareness campaigns delayed.
4. Increase understanding of patient expectation, behavior and needs. • Conducted interviews and focus groups with patients.	• No activity reported.

c. Discussion

A number of important activities are highlighted by each of the four categories above.

Clinical management practices:
The LSFH surgical volume, skills and case management are strong. The total number of cataract surgery reported for the hospital increased slightly from 2000 levels. However, the productivity appears to have leveled off over the past two years. This is likely due to the limited number of ophthalmologists consistently available to the eye department. Until recently, the LSFEH was dependent on Dr. Chirambo and short-term contracts for expatriate ophthalmologists. To improve this situation, graduates from the Malawi Medical College are being selected for post-graduate training in ophthalmology. During this reporting period, the first Malawian physician completed his ophthalmology training in Kenya and began practice at the hospital. A second Malawian ophthalmologist also trained in Kenya, returned at the end of the year 2001, and will be transferred to the Queen Elizabeth Central Hospital during 2002. Although these new ophthalmologists provide much needed capacity, there continues to be tremendous demands for their services. To address the need to have a full-time ophthalmologist available to the hospital at all times, an expatriate ophthalmologist was recruited from India and is supported by SightSavers International (SSI). With this additional capacity, the total surgical output at the LSFEH is expected to increase at least 20% or more.

Quality and service redesign:
Human resource management requires further strengthening. During the reporting period, a major effort was made to recruit, hire, and train new staffing positions for the hospital. The Manager, Accountant Stores Clerk, and Patient Counselors are new positions created to fill critical gaps in the organizational structure at the hospital. Funding from the IEF grant is designated for this purpose and until such time as other funding (either from the MOH or from patient revenue) is available. The Manager and Accountant were in place in April 2001, but both resigned by the end of the year each pursuing other job opportunities. The Stores Clerk and the Patient Counselors remain on staff.

The inability to retain these two important staff is due in part to the organizational and management structure of the hospital. The LSFEH is technically and legally a Department of the parent Lilongwe Central Hospital and is not an autonomous non-governmental entity invested with independent authority for administrative and management decisions. Consequently, there are overlapping lines of authority for several functions including control over staff positions. Although, the LSFEH is generally well staffed, there are no official MOH positions for a Manager, Accountant, Stores Clerk, and Counselor. The sub-grant seeks to fill this critical gap in the short-term while seeking ways to maintain financial support and increase MOH recognition of the positions.

Currently, there is a Management Committee composed of key staff from the LSFEH that meets once per month. Given the fact that the LSFEH is not an independent institution, the Management Committee, composed of MOH and NGO staff, has limited authority

over management decisions. IEF is considering organizing a meeting of stakeholders during 2002 to discuss management and operational issues at the hospital. Based on the outcome from discussions, IEF inputs will be adjusted accordingly.

Data management and reporting require further strengthening. Considerable effort was made during the reporting period to provide computers and develop an integrated information system for patient data and service statistics. Although computers are in place, the information system is still not operational. Considerable time was invested to establish a basic accounting system to be used by the accountant. A computer is operational and an Excel spreadsheet was provided for this purpose. A technical visit by a Certified Public Accountant to train the hospital Accountant was postponed due to September 11th.

Patient environment is improved. During this reporting period, renovations were completed at the new Day surgery unit, which was officially opened for business July 1st 2001. Although the unit is operational, the clinic is open only one day a week for consultations and surgery due to competing demands on the ophthalmologists. The optical unit housed in the Day unit is open for business five days per week and is performing well. The planned renovations to the wards to establish a 'Low pay ward' are not completed and questions remain whether there is a clear decision by management to do so. Completing the renovations and increasing the number of days services are available per week is a priority for 2002.

Procurement process is improved. Bulk purchase of the medical consumables for surgery was completed and a central stores was established within the hospital itself to consolidate all necessary supplies. The procurement of bulky and heavy pharmaceuticals proved to be expensive to ship from India. To reduce these costs IEF has begun to investigate purchase from regional sources (Nairobi) to lower shipping costs. Also, during this reporting period, the defunct ophthalmic eye drop unit was revived and produced several basic eye drops for the hospital. It remains unclear whether the eye drop unit will continue to produce supplies, or bulk purchase of better quality eye drops will be purchased from new regional suppliers. Coordination of purchase of consumables will remain a priority for 2002.

Cost effectiveness:
Revenue increased. The major accomplishment during this reporting period is the generation of the LSFEH's first self-earned income from patient fees.[4] The pricing structure underwent further revision from what was planned during 2001. In general, the prices are simplified and reduced. The reduced prices combined with the lower than expected surgical output, and the late implementation of the paying services have resulted in less than expected income for the period. However, the LSFEH earned gross income of $10,330 in a six month period and projects $25,107 in gross income for 2002. Of the total revenue, the majority is from the sale of spectacles. In the first six months $58,606 in gross revenue was realized of which the LSFEH received $8,897 (15%).

[4] Although, a small amount of revenue was earned from a few paying patients in previous years, there was no plan to differentiate and improve services and establish pricing for growth.

Additionally, the Out Patient Department-2 (paying) shares revenue with the Central hospital of which receives 25% of the OPD funds, and the Day unit is not open five days per week. The targets for 2002 are re-adjusted to reflect management decisions and staff performance. Establishing targets and monitoring implementation is critical to the outputs for 2002 and beyond.

Marketing/ outreach/ equity:
Outreach activities are well organized and managed. However, the planned cost per patient acceptor increased from $12+ to $20+ for several reasons. The purpose of pro-actively finding patients through outreach is to stimulate "word of mouth marketing" to increase the number of "walk in patients". These self-referred patients are subject to the pricing structure (ranging from $0 to $70). Currently the ratio of walk-in patients to outreach patients is approximately 30:70. During 2002, it is hoped to increase the ratio to 40:60 and increase the total number of surgeries at least 20%. It should also be noted that the majority of all surgery performed (>95%) was on poor patients who received free surgery. The results of 2002 are critical to understanding what level of growth can be sustained under the present leadership and organizational circumstances. Additionally, the socio-economic situation in the country is becoming increasingly difficult. The economy is weak, unemployment high, and crime and poverty are increasing.

d. IEF input

A total of $152,578 is sub-granted to the LSFEH and $71,783 has been transferred. During 2001, a total of 55 days were spent consulting with the LSFEH in-country (including travel and other days) by Raheem Rahmathullah and John Barrows.

Raheem Rahmathullah:

January 17-26, and February 9- 28 2001 (in between, time was spent consulting with the El Magraby Eye Hospital in Cairo, Egypt)

October 13- 27 (including 3 days in Blantyre and 5 days Nairobi)

John Barrows:

April 1-13 (5 days spent in Lilongwe and 5 days in Blantyre)

Other IEF input includes meetings and discussions at the IEF Bethesda office involving Mr. Rahmathullah, Mr. Barrows and Mr. David Green. In addition, the time of Ms. Martha Moore was budgeted to design an Excel accounting spreadsheet for the accountant. Ms. Moore was scheduled to travel to Malawi for two weeks in order to train the new Accountant and establish computer accounting software. However, due to the events of September 11th, this travel was postponed.

e. Updated business plan

Market: The target population for the services are the population of Lilongwe City and the District, and nine other surrounding districts of the Central region. The population is composed of a small segment of wealthy and middle (commercial and working) income persons residing primarily in urban areas. The majority of the population is poor, resides in traditional rural villages, and is dependent on subsistence agriculture.

Strategy: The business plan is based on developing the capacity to sustain high volume adult cataract surgery. High volume is defined by establishing the potential surgical volume based on the availability of surgeon(s) and infrastructure; improving the process of finding and or attracting patients; and improving the efficiency of service delivery. To a large degree, the model is based on the Aravind eye hospital in Madurai, where by patients identified and brought to the hospital through outreach excursion, are provided free surgery. On their return, patients who experience dramatic change to their vision (aphakic motivator) promote services to their peers and family by "word of mouth". See appendix for story of a patient benefiting from the new services.

Services and pricing:
Services offered are Outpatient, Surgery, and Eyeglasses. The OPD and surgery services are designed to serve all population segments. Outreach patients receive free surgery, and walk-in patients are charged fees from $0 to $70 depending on their economic status and choice of services. The purchase of eyeglasses is entirely dependent on patient choice. A pricing structure has undergone multiple changes over the past 1½ years. Currently, the price structure is the following:

Table 3: LSFEH pricing

OPD – 1	MK 0	
OPD –2	MK 250	$3.5
Day Unit	MK 1,500 MK 2,500 Mk 5,000	$21 $35 $70
Other surgery	Mk 1,500	$20

An important constraint encountered was the inability to negotiate full control over pricing and fees generated by the LSFEH. An acceptable agreement was made between LSFEH and the Lilongwe Central Hospital (parent hospital) that all services at the Outpatient–1 (free services) are free and all services of the Outpatient-2 (paying services) are shared. The percentage of sharing is reported to be 25% going to the hospital and 75% remaining with the LSFEH. However, all fees for surgery at the Day unit are controlled by the LSFEH.

The 80-bed hospital has the potential to increase its surgical output to >3,800 cataract patients over the next three years. However, based on past performance the 2002 targets fare a modest increase from 1,400 to 1,700 surgeries. If the hospital performs more aggressively, 2,500 surgeries is a desired target.

Targets for cost recovery are to increase self earned revenue in excess of the:
1) Cost of the annual cost of surgical consumables,
2) Costs of consumables and costs of the new staff positions (essential but not supported by the MOH),
3) Breakeven point for all expenditure (less MOH salaries and building rent)
4) Break-even point for all expenditure.

Table 4: LSFEH revenue and expenditure projections 2002

	Low	Medium	High
Revenue	23,893	28,150	32,767
Expenditure	98,071	114,913	132,878
Surgery volume	1,700	2,100	2,500
A. Consumable cost Net profit/loss	34,000 (10,107) 70%	42,000 (13,850) 67%	50,000 (17,233) 66%
B. New staff costs Net profit/loss	7,635 16,258 313%	7,635 20,515 369%	7,635 25,132 429%
A + B Net profit/loss	41,635 (17,742) 57%	49,635 (21,485) 57%	57,635 (24,868) 57%
All costs (incl. MOH salaries	98,071 (74,178) 24%	114,913 (86,763) 24%	132,878 (100,111) 25%

See appendix for detailed spreadsheets of Revenue and Expenditure.

f. Other complementary support activities

1) Optical services –

Early in development of the sustainability plan, it was apparent that development of optical services was crucial to providing comprehensive eye care services and for generating revenue. Several options for establishing optical services were reviewed including short-term measures to establish a 'spectacle bank' by providing a stock of low cost ready made glasses vs. creating a comprehensive business.

The decision was made in favor of the latter and a private businessperson, Mr. S. Sharma from Tanzania, was contacted to assist in developing an optical business at the hospital. Under this arrangement, all costs for establishing the business including the purchase and installation of equipment (Japanese), spectacle frames and lens supplies (India and Thailand), staffing, training, and management, are the responsibility of Mr. Sharma. In exchange, the LSFEH provides part of the newly renovated Day surgery center to house the business and the hospital receives 15% of the gross sales.

The optical shop's business plan is based on creating a high volume from walk in customers in the area and from patients referred through the eye hospital itself. Sustained growth of the business is based on establishing affordable prices to the majority of the population (lower middle and poorer segments). Thirty to thirty-five customers, with at least 15 patients refracted in the LSFEH Out Patient department and referred to the optical unit, are desired. (The OPD sees on average 150 patients per day). The agreement in place is for three years, after which the LSFEH has the option to take full control of the business at no cost.

The progress to date is positive. After some delays in completing renovations, Mr. Sharma has succeeded in purchasing and installing all equipment, hiring and training new personnel, and opening the doors for business in July 2001. The first six months of sales are summarized in Table 3.

Table 5: Optical sales

Month 2001		Gross sales		15% LSFEH	
July	74	119,500	$1,784	17,925	$242
August	67	743,550	$11,098	111,533	$1,665
September	64	601,700	$9,402	90,255	$1,410
October	63	927,400	$13,841	139,110	$2,208
November	62	865,980	$13,967	129,897	$2,095
December	68	578,975	$8,514	86,846	$1,277
Total		3,837,105	$58,606	575,566	$8,897

The majority of the sales to date (15-20 prescriptions per day) are from outside of the hospital population. These customers are highly desired because they purchase higher priced frames and lenses. However, because this segment of the population represents a small percentage of the total population, sales are expected to plateau and possibly decline, if sales cannot reach the target population. If this occurs, the optical business may have to increase prices effectively limiting access by the poor to these services.

There is an apparent problem related to the lack of referral of patients from the OPD to the optical shop as planned. This is thought to be due to the OPD Clinical Officers directing patients to a competing optical service in the city in exchange for a percentage of the fees paid directly back to them. This practice is well entrenched in the dental unit on the hospital grounds and remains unchecked by hospital management. This represents a lack of communication regarding creation of a team supporting the financial sustainability of the hospital as a whole and lack of control over government staffing that share a common vision. This also highlights the major constraint of poor remuneration of government staff that must be addressed to attract and retain competent personnel. One obvious solution is to provide financial incentives to staff based on sales performance of the hospital's surgical and optical unit itself. Solutions to address these issues are a priority for 2002.

2) Queen Elizabeth Central Hospital, Eye Department –

During this reporting period, IEF facilitated the development of a proposal to the Lions Club International SightFirst Program, based in Oakbrook, Illinois. The proposal supports construction of a new hospital department building, provides new equipment, supports training of staff, and re-orientation to sustainability planning. The purpose of this project is to replicate the LSFEH sustainability experience, furthering the creation of a National program based on SRM principles.

The total funding approved during 2001 was $1,661,702 over five years. It should be noted that these funds are part of the Lions Clubs International SightFirst program and is not funding provided to IEF. The process for applications requires award to the local Lions Clubs themselves, in which a PVO such as IEF, may or may not be invited to assist. In this case, IEF has created very strong relationship with the Lions Club of Blantyre, the city where the Queen Elizabeth Central Hospital (QECH) Eye Department resides.

The IEF role has been to facilitate development of the proposal, garner stakeholder support, and negotiate the award. Included in the proposal are plans for IEF technical assistance to the project through the IEF Country Office in Blantyre, and through SRM. IEF is also assisting in ensuring that the architectural building design is effective, and IEF will assist to procure and ship approximately $160,000 in equipment through SightReach Surgical®.

Although IEF is providing person time, travel and communication costs, unfortunately, IEF cannot receive direct funding from the grant due to the SightFirst policy to support the local in-country Lions Clubs only. Regardless, the importance of this activity is the acceptance to build a new hospital at the QECH that offers a focus of intervention to expand sustainability planning for the country. Additionally, this award represents steps toward creating a strategic alliance directly with the SightFirst Program in the USA for future joint programming benefiting the hospital partners, local Lions Clubs, the larger SightFirst program, and IEF.

IEF will report on these activities as a new and separate SRM activity during 2002.

g. Constraints and plans for 2002

1. Technical assistance:
   1.1. Continue technical assistance from IEF

2. Human resources:
   2.1. Resolve vacant Manager and Accountant positions.
   2.2. Train Counselors in basic eye care

3. Organizational development
   3.1. Strengthen role and function of Management Committee by conducting training
   3.2. Organize a stakeholder meeting between all involved and related parties.
   3.3. Develop a comprehensive National Plan incorporating strategies (hospital and outreach based) with resources.

4. Management:
   4.1. Complete MIS and accounting systems and train staff in use.
   4.2. Develop consensus on work plan including all targets and responsibility functions.
   4.3. Review, analyze, forecast expenditure and income projections with Management Committee.
   4.4. Develop consensus on financial plan and budget.

5. Surgery services:
   5.1. Increase from 1 to at least 3 days per week High Pay unit is operational by allocating more time by an ophthalmologist.
   5.2. Implement use of private rooms in High Pay unit by providing night duty nurse and security measures.
   5.3. Implement Low Pay Ward service and pricing by renovating one ward to accommodate lowest price service.

6. Optical services:
   6.1. Expand marketing to middle, lower middle, and poor populations by increasing referral from the Outpatient department to the optical shop.
   6.2. Expand marketing to district hospitals in coordination with outreach program.

7. Documentation
   7.1. Test LAICO/IEF tools to LSFEH and report.

2. Al Noor Foundation/ El Magraby Low Pay Hospital, Cairo, Egypt

a. Background

The Republic of Egypt has a population of 62 Million (1996 census) and is densely populated and highly urbanized. In a survey completed by the Al Noor Foundation (1999) in the Menoufiya Governarate north of Cairo, it was found that 54% of all blindness (Visual Acuity ≤3/60) was caused by cataract and the prevalence of cataract in the ≥50 age group was 4.5%. The cataract surgical coverage was found to be 17.6%. The Egyptian per capita income is estimated at US$ 1,957 in urban areas and $1,511 in rural areas, which averages of $1,734 (approximately LE 555/- per month).[5]

Al Noor Foundation was established in 1989 and is based at the El Magraby Eye Hospital in Cairo. The El Magraby Medical Hospitals and Centers established a state of the art eye hospital in Cairo, Egypt to provide high quality services in a densely populated and under-served section of the city. The clientele of the hospital are largely wealthy patients with the means to pay for eye care services at a competitive market price. With considerable encouragement from advisors, the hospital management was convinced to build a new charitable hospital (referred to as the 'Low Pay Hospital') adjacent to the "High Pay Hospital". This new unit is designed to provide services to the large number of working class and poor.

The rationale for selecting the El-Magraby eye hospital as a SRM partner is to help a for-profit organization to establish and provide services for the poor. The El-Magraby Group is well established and is highly likely to achieve the objectives for increasing surgery, reducing costs, improving quality, and achieving financial self-sufficiency in a short time period. Furthermore, the hospital serves a large under-served and poor population. The IEF has excellent relationships with the Al Noor Foundation and in particular Dr. Akef El-Maghraby, the founder and President of Al Noor Foundation. In the long term, the Al Noor Foundation is in a position to apply the management and financial sustainability strategies to its current and future supported eye hospitals, including possible expansion in sub-Saharan Africa.

IEF entered an agreement with the Al Noor Foundation to assist the El-Magraby Low Pay Hospital over a period of two years (05/01/01 – 04/30/03) supported by a sub-grant for $160,000.

b. Outputs and achievements

The **Purpose** of the Action Plan is:

1. The new Low Pay Hospital is fully operational, financially sustainable, and meets the basic needs of all people including the poor.

[5] CAPMAS household budget survey conducted in 1995/1996.

The primary **Outputs** are:

1. Planning, monitoring and evaluation mechanism in place and operational.
2. Hospital infrastructure established and operational.
3. Clinical management practices improved.
4. Quality and services established and operational.
5. Cost effectiveness and financial sustainability improved.
6. Marketing and outreach services established and operational

Construction of the new hospital has been underway for more than three years with considerable delays. To ensure that the Low Pay Hospital becomes fully functional the hospital must address a wide range of components needed to establish new services separate from the parent "High Pay Hospital". The purpose of IEF's contribution is to facilitate this process providing technical support on demand and funding for strategic inputs. During the discussion and planning period, IEF decided to support the hospital start up by facilitating training for high volume surgery methods and development of the outreach activities that feed patients to the hospital. Specifically, IEF is supporting the costs of the first 2,000 cataract surgeries in order to stimulate patient flow to the hospital. During this process, all systems are expected to become operational and continue after the IEF supports ends.

Table 6: El Magraby accomplishments 2001

A. Clinical management practices improved.	
Objective/Activities	Accomplishment/ Constraints 2001
1. Demonstrate high volume cataract surgery.	• Total of 639/1,000 (64%) free cataract surgeries completed through outreach. • Total 639/2,000 (32%) of all planned cataract surgeries completed.
2. Improve micro-surgery skills. ▪ High volume micro-surgical practices demonstrated and practiced	• Small Incision Cataract Surgery (manual sutureless phaco) demonstrated by visiting LAICO team April 2001.
3. Strengthen case management. • Establish standard protocols for (preoperative surgery, Cataract surgery, Operating theatre, Management of uncomplicated cases, Management of complicated cases) • Established standard protocols for wards and OPD. • Organized OPD and wards to accommodate more patients.	• Dr. Soliman, Executive Director, attended a 2 week training in QA management methods at JHU June 2001. • Standard protocols not operational
4. Improve patient satisfaction. • Establish patient counseling services. • Established ECCE surgery with IOL as standard practice. • Established patient satisfaction monitoring system for routine reporting.	• Not operational • ECCE with PCIOL - Small Incision Cataract Surgery (SICS) • Not operational

B. Quality improved and services designed	
Objective/ Activity	Accomplishment/ Constraints 2001
1. Strengthen human resource management. • Plan organization of department clarifying lines of authority and job functions • Assess HRD needs reviewing (Capacity, Planning, Policy, Practices & Training). • Create job descriptions for xx categories of staff. • Establish organizational structure. • Hire Manager.	 • In progress • Completed • In progress • Completed • In progress
2. Strengthen management and use of information. • Establish MIS and record keeping system for: - out patient registration, medical records, Admission, ward, discharge, Operating theatre, Outreach camps, Inventory, materials and procurement, Accounting, Quality assurance patient satisfaction OPD/ , Inpatient feedback interviews. • Implement mo./qtr. summary reporting	 • In progress • Not operational
3. Improve patient environment. • Complete all building and renovation • Implement catering services Implement patient counseling.	 • Completed • Completed • In progress
4. Strengthen quality improvement. • Introduced QA concepts. • Established review committee process. • Established patient feedback system. • Established staff code of conduct.	• Dr. Soliman trained at JHU course; further orientation to staff not completed. • Not completed • In progress
5. Strengthen support services • Staff sent for equipment maintenance course. • Standardized purchasing and inventory control systems. • Developed list of basic consumables and suppliers.	 • Not completed • Completed Completed

C. Cost effectiveness improved and financial self-sufficiency improved.	
Objective/ Activity	Accomplishment/ Constraints 2001
1. Improve efficiencies • Complete review of all fixed and variable costs and revenue sources. • Introduced concept of outreach camp sponsorship.	• Completed • In progress
3. Create new sources of revenue • Developed financial sustainability plan and established prices for services	• Completed
4. Strengthen preparations for cost recovery. • Establish autonomy for Low Pay Hospital. • Orient staff to daily expectations supporting cost recovery. • Establish accounting systems. • Educate staff on economic use of resources and accountability.	 • In progress • In progress • Completed • Not started

D. Marketing and outreach services improved.	
Objective/ Activity	Accomplishment/ Constraints 2001
1. Establish community outreach system. • Designed and implement outreach strategy and procedures.	• 26 outreach events completed resulting in 6,787 patients screened; 944 cataract patients identified; 1,525 patients VA identified; 3,140 other surgeries and treatments.
2. Improve efficiency. • Unit costs established.	• Not completed.
3. Create awareness for new services. ▪ Develop patient information and advertisement	• Not completed
4. Increase understanding of patient expectation, behavior and needs. • Conducted interviews and focus groups with patients.	• No activity reported.

c. Discussions

Clinical management practices:
Training: A team from the Aravind Eye Hospital spent two weeks in Cairo training the hospital staff in the Small Incision Cataract Surgery (manual suture-less phaco) technique and high volume management. Further training is needed of a Manager once he/her is in place.

Clinical Services: The clinical services excellent. They have a competent team of ophthalmologists, namely Dr. Ayman and Dr.Inez, who have been relocated from the High Pay hospital to the Low Pay hospital. Both are competent surgeons and demonstrate tremendous potential.

Quality and service design:
Hospital facilities: The hospital is very well designed with a bed capacity of 40. The building itself has been under construction for several years due to construction problems. The hospital is also well equipped. The official opening of the hospital has been delayed for different reasons, primarily due to hiring of a Manager and the opening of the out patient department. This is now expected to happen in April 2002.

Human Resources: All the staff will be relocated for this hospital once it is fully operational. All the clinical allocations have been made, and the remaining staff will come on board as soon as the hospital becomes functional.

Management Committee: A Management Committee was established and is functional. Dr. Soliman, Administrative Director of the Magraby Group in Cairo, heads this committee. Dr. Soliman is a highly competent and dynamic leader providing much of the leadership to establish the hospital.

Quality Control: The quality of the clinical surgical services is of a very high standard. The medical record system is excellent.

Cost effectiveness:
Cost Recovery: Cost recovery has not yet been implemented, but is expected to be in place beginning April 2002.

Marketing and outreach:
The majority of all activity during this reporting period is related to establishing the outreach strategy. The hospital has made progress over the year. Of the first 2,000 surgeries to be performed at the hospital, the first 1,000 patients will be identified through the new outreach services. All patients identified through outreach receive surgery free and the majority of the costs are supported by IEF (consumables and direct cost of outreach). These first 1,000 surgeries were expected to be completed within the first eight months (July 2001 – February 2002). During the initiation of these camps the clinical team from LAICO, India visited (June 2001) to train staff in high volume surgery.

The surgery target was estimated to be achieved through 25 outreach camps. To date 26 camps were conducted resulting in 639 cataract surgeries (average of 26 cataract surgeries per outreach).

Table 7: Outreach Statistics January to December 2001

Description	Total	Average
Number of outreach camps	26	2 per month
Patients Examined	6,787	261 per outreach
Number of cataract patients identified	944	36 per camp (13.9%)
Number of cataract surgeries performed	639	25 per camp (9.4%)
Surgical acceptance rate		68%
Refractive errors	1,525	23%
Other surgeries	36	4%
Treated with medications	3,104	46%
Average distance covered /outreach		100 Klms
Average population covered/outreach		44,884

Note: The total of 26 camps include the first camp attempted in September 2000 with the MOH.

For planning purposes, targets were estimated based on the calculation that the prevalence of blindness is 1% of which 50% of these are due to cataract. The total estimated outreach population targeted was 1,317,000. From this population, 1,224 potential cataract patients are estimated in each camp. Outreach performance demonstrated a surgical acceptance rate of 9% (639/6,787, or 25 cataract surgical patients per outreach). In other developing countries (Asian region) the surgical acceptance rate is higher (15%).

Table 8: Cost Analysis 26 – Outreach camps

Description	Average/outreach	Total	%
Transportation Costs	US$ 163.91	US$ 4,261.66	53%
Staff Incentives	US$ 123.04	US$ 3,199.04	39%
Others	US$ 24.78	US$ 644.28	9%

The average cost per outreach is LE 1,413 ($307). The total cost on the 26 outreach camps was LE 36,725 ($ 7,983.70) or $13 per surgical patient. The cost of food per cataract surgery inpatient stay was LE 26 ($ 5.65 per patient) for a two-day in-patient stay.

Improvement:
Although, these camps represent positive first steps to establish services at the Low Pay Hospital, further improvement is needed. The number of patients coming to the outreach camps averaged 261, or 0.6% of the total population. Experience in Asian countries demonstrates that 1% of the target population should be the result.

If this is taken as a benchmark target, the average patient flow to each camp should be closer to 450 persons examined (>70% increase). The following factors are being evaluated in order to increase patient examination:

- Increase organization and training of the clinical team going on the outreach camps.
- Reduce the complexity of the patient screening protocol.
- Improve community education and advance publicity.
- Select patients within closer proximity to the sponsors supporting the camps. This may reduce the percentage of very poor patients who need this service, but are not able to take advantage of the opportunity.

Changes yet to be implemented:
This will be known only after Raheem Rahmathullah makes a visit. He has not been there since May 2001. This trip was planned for October 2001 but was postponed due to the events of September 11th.

d. IEF input

A total of $160,000 is sub-granted to the El-Magraby Hospital through the Al Noor Foundation. Although, outreach activity was initiated during this period, no request to transfer funding was received. Despite this, IEF transferred $15,000 on 12/21/01 but no expenditure has been reported. During 2001, a total of 88 days were spent consulting with the El Magraby Hospital in-country (including travel and other days) by Raheem Rahmathullah, John Barrows, and David Green.

Raheem Rahmathullah:
January 27 - February 8, 2001
March 16 – May 10, 2001
John Barrows:
January 25 – February 1, 2001
David Green
January 25 – February 4, 2001

Other IEF input includes meetings and discussions at the IEF Bethesda office involving Mr. Rahmathullah, Mr. Barrows and Mr. David Green. Other input included the time of Ms. Martha Moore who was scheduled to travel to Cairo for two weeks in order to train management in accounting. However, due to the events of September 11th, this travel was postponed.

e. Constraints and plans for 2002

The primary objective for 2002 is to ensure that the out patient department is operational and the hospital is officially opened to the general public. There were several delays in opening the hospital that are not dependent on IEF input. This SRM partner represents a unique situation where the goal is to orient a private and profitable hospital group to provide low cost surgical services to the poor. The El Magraby Hospitals are also not

constrained by funding limitations. IEF believes that the delays in opening the Low Pay hospital are due to unresolved policies within the El Magraby Hospital Group. The High Pay hospital may be reluctant to see the Low Pay hospital open because it represents changes the High Pay hospital may be unwilling to undertake (performance, and cost efficiency). Nevertheless, Dr. Akef El Magraby is committed to serving the poor.

1. Technical assistance:
   1.1. Continue technical assistance from IEF; plan a visit in April 2002.

2. Human resources:
   2.1. Establish the Manager and Accountant positions.
   2.2. Train Counselors in basic eye care

3. Organizational development
   3.1. Strengthen role, function and independence of the Management Committee by conducting training.
   3.2. Organize a stakeholder meeting between all involved and related parties.

4. Management:
   4.1. Develop consensus on work plan including all targets and responsibility functions.
   4.2. Review, analyze, forecast expenditure and income projections with Management Committee.
   4.3. Develop consensus on financial plan and budget.

5. Surgery services:
   5.1. Increase from 1 to 7 days per week the hospital is operational.

6. Documentation
   6.1. Test LAICO/IEF tools at El-Magraby Hospital and report

3.Kilimanjaro Centre for Community Ophthalmology (KCCO), Moshi, Tanzania

a. Background

Selection:
The selection of the Kilimanjaro Centre for Community Ophthalmology (KCCO) as a SightReach® Partner is based on circumstances related to IEF's relationships with the principal individuals involved. One objectives of the SRM program described in the Detailed Implementation Plan is to investigate, test and establish standard indicators for measuring the visual and life impact of surgery performed. IEF planned formal agreement with Paul Courtright, DrPH, an ocular epidemiologist and his wife Susan Lewallen, MD, an ophthalmologist of the B.C. Centre for Epidemiology and International Ophthalmology (BCCEIO) to undertake this endeavor which is described in greater detail in the DIP and the First Annual report. The Courtrights are well respected internationally and are former employees of IEF.

This strategic collaborative agreement was not formalized during 2001 due to the decision by Dr. Courtrights to leave the BCCEIO in order to establish the Kilimanjaro Centre for Community Ophthalmology (KCCO) within the eye department of the Kilimanjaro Christian Medical Center (KCMC). The decision to establish the KCCO was negotiated with international donors during 2001. IEF made the decision to support the KCCO in order to accomplish 1) planned objectives to develop monitoring outcome indicators, and 2) take advantage of the location to explore a relationship with the Kilimanjaro Christian Medical Center (KCMC) as a new sustainability partner.

An agreement was made with the KCCO for the period of Ocober 1st, 2001 through September 30th, 2002 supported by $50,000. The Courtrights relocated to Moshi, Tanzania in October 2001. There are no project activities to report for this period. A visit to Moshi is planned for early 2002.

KCMC:
IEF is currently assessing the feasibility of formalizing a relationship with the Eye Department of the Kilimanjaro Christian Medical Center (KCMC) in conjunction with the KCCO. The Kilimanjaro Christian Medical Center was established in Moshi Tanzania to serve as a referral and national teaching hospital in the early 1960's. The Lutheran, Anglican, and the Moravian churches in Tanzania established the Good Samaritan Foundation (GSF) as the governing body for the enterprise. The GSF raised the funds to build and equip the Kilimanjaro Christian Medical Center (KCMC) and opened in March 1971. Sixteen years later, the Kilimanjaro Christian Medical College was opened. The KCM College is a constituent college of the Tumaini University along with the Iringa University College and Makumira University College in Tanzania. The KCM College is comprised of the Faculty of Medicine, Nursing, and Rehabilitation Medicine; Institute of Allied Health Science; Institute for Postgraduate Studies and Research; and the Medical Center.

The Chief Executive of KCMC is Professor John Shao, and the Medical Director is Dr. Swaye. The university and hospital are non-profit, non-government and are governed under the Good Samaritan Foundation. The medical center consists of the departments of Internal medicine, Pediatrics, General surgery, Orthopedics, Urology, Anesthesia, Obstetrics, Ophthalmology, ENT, and Dentistry. Within the Department of Ophthalmology is a Department of Optometry.

The Department of Ophthalmology is located one two floors of one wing of the hospital structure. The head of ophthalmology is Dr. Anthony Hall, and supported by Dr. Brian Savage and Dr. Irma Makupa (originally from Romania). The department has several training tracks including training of new ophthalmologists in a Masters of Medicine (MMed) course (1-2 ophthalmology residents per year); Assistant Medical Officers (AMO) (3 - 4 per year); and ophthalmic nurses. About 90% of the funding for eye care service delivery at KCMC is provided by the ChristianBlinden Mission (CBM) a private non-profit eye care organization based in Germany.

The KCMC is located in Moshi town and serves the province of Kilimanjaro. The total population of the Moshi area is approximately 1.5 million people, and the total population of the Kilimanjaro region is approximately 10 million. It is estimated that approximately 4,000 – 6,000 cataract surgeries are required annually in order to keep abreast of the cataract incidence of the region. There is a government facility in Moshi with at least one government ophthalmologist at that facility performing non-IOL cataract surgeries (ICCE).

b. Plans 2002

A first visit is planned for February 2002 to monitor progress and evaluate the potential of the KCMC as a sustainability partner.

1. Technical assistance:
   1.1. Provide technical assistance from IEF; plan a visit in February 2002.

2. Conduct preliminary assessment and information gathering prior to travel
   2.1. Develop a framework for Eye department autonomy
   2.2. Develop organizational and financial sustainability plan

3. Assess services
   3.1. Evaluate and model services and pricing

4. Gain stakeholder input

5. Decision and plans to include KCMC as new partner

4.Lions Aravind Institute for Community Ophthalmology (LAICO), Madurai, India

a. Background

The Lions Aravind Institute for Community Ophthalmology (LAICO) was established as a technical support arm of the Aravind Eye Hospital, Madurai, India in 1992 with support from the Lions Club International Sight First Program and the Seva Sight Program, USA. Driven by the mission to contribute to the prevention and control of blindness, the Institute trains eye health and management personnel in the development and implementation of efficient and sustainable eye care programs. LAICO accomplishes this through practical training and demonstration of best practices in conjunction with the Aravind Eye Hospitals.

Madurai is an ancient Temple City visited by Hindu pilgrims. Over the years as the Aravind Eye Hospital led the way in eye care service delivery, Madurai became known not only for the religious temple (Goddess Meenakshi) but also for the Aravind Eye Hospital known as the "Mecca of Ophthalmology".

LAICO is located adjacent to the Aravind Eye Hospital established in 1976 by the visionary Dr. Venkataswamy, to "eradicate needless blindness by providing appropriate, compassionate and high quality eye care to all." During 2000, the Aravind hospital alone serviced 586,678 out patients and performed 97,925 surgeries, and conducted 577 screening eye camps.

The LAICO has a reputation for working with International NGO's (Christoffel-Blindenmission, Sight Savers International, Seva Foundation, Orbis International, International Eye Foundation, and others). LAICO also works closely with over 130 hospitals in India, Bangladesh, Nepal, Indonesia, Cambodia and Africa to improve the technical quality of surgery and improve management, quality and financial sustainability. LAICO conducts management training programs, custom designed courses, and is involved in policy advocacy for eye care programs at the National and International levels.

b. Agreement

IEF recognizes that a stronger LAICO also serves the needs of the SightReach® Management program to demonstrate and expand financial sustainability methods internationally. IEF also has specific needs to:

1) Continued access to LAICO training courses for SRM partners

2) Coordinated development of consulting tools for technical and management visits with existing and new SRM eye hospital partners, and

3) Improved documentation of results

The collaborative partnership between IEF and LAICO is intended to strengthen their institutional capacities for sustainability, as well as serve IEF's SightReach® Management objectives. An agreement was made to support LAICO with $150,000 from October 1st, 2001 through June 30th, 2004.

LAICO institution building:

The demand for technical assistance to improve productivity and efficiency of eye care hospitals is growing. Currently LAICO is providing assistance to 110 hospitals, primarily in the Asian region that has resulted in a doubling of the hospital surgical output and increased financial self-sufficiency within a two-year period. IEF has facilitated training between its SRM partners and LAICO for specialized training and experience. The LAICO is managed by a team of full-time staff with considerable assistance from the parent institution, Aravind Eye Hospital. The purpose of the SRM grant is help LAICO increase their organizational capacity to address the increasing needs for training and technical assistance, documentation and advocacy. The three outputs of the program supported by IEF are:

1) Improved productivity and effectiveness of teaching services (Faculty Development).

2) Expand on-site technical assistance services serving hospitals nationally and internationally (Consultancy).

3) Establish an efficient information and knowledge sharing documentation center (Documentation Centre).

IEF will continue to coordinate technical visits between its SRM partners and LAICO teaching courses and coordinate development of consulting tools needed for sustainability planning.

One quarter of activity was completed during this reporting period (October – December 2001). During this time LAICO reports:

1) Faculty Development: Planned recruitment of a Medical Records Department (MRD) staff and appointment of an ophthalmologist.

2) Consultant Services: Planned appointment of staff; reviewed and categorized list of needed consulting tools for development.

3) Documentation Centre: Appointment of planned staff (science writer, Tamil writer, Web Master, and mechanism for English translation.

c. Plans 2002

During 2002, the LAICO activities will be in full implementation:

1. Improve productivity and effectiveness of teaching services
   1.1. Hire new faculty and staff
   1.2. Conduct in-service training for existing faculty and staff
   1.3. Design and conduct courses (existing and new)
   1.4. Adapt curriculum and courses to consulting tools, and model
   1.5. Conduct workshops with volunteer input
   1.6. Evaluate effectiveness of courses

2. Expand on-site technical assistance services serving hospitals nationally and internationally.
   2.1. Model an effective consulting process
   2.2. Develop tools for assessment and planning
   2.3. Develop clinical and management protocols
   2.4. Develop MIS systems
   2.5. Conduct and document on-site consultations
   2.6. Conduct joint on-site workshop

3. Establish an efficient information and knowledge sharing documentation center.
   3.1. Hire staff
   3.2. Develop systems for organizing, maintaining, and distributing materials
   3.3. Strengthen links with other organizations
   3.4. Develop case studies
   3.5. Develop publications
   3.6. Create web-based documentation system

4. Provide efficient planning, monitoring and evaluation of grant
   4.1. Develop annual detailed work plans
   4.2. Monitor progress monthly
   4.3. Report on progress and expenditure monthly, quarterly and annually
   4.4. Conduct a mid-term and final assessment and report

5. VISUALIZA, Guatemala City, Guatemala

a. Background

The population of Guatemala is approximately 12.6 million people with over 2.5 million living in Guatemala City and surrounding areas. Economically, there is a wide range in socio-economic status with over 60% of the population classified as poor or very poor earning less then $1,250 per year.

VISUALIZA is a private family practice founded by Dr. Mariano Yee and Dr. Nicholas Yee, (brothers) in Guatemala City in 1997. VISUALIZA serves all patient populations. However, prior to IEF intervention, the majority of patients were typically middle-to-upper class. In addition to Dr. Mariano Yee and Dr. Nicholas Yee there is one optometrist Mrs Kimberly Ann Yee (wife to Dr. Mariano) and two receptionists.

VISUALIZA and its surgical center is located in Guatemala City in close proximity to densely populated neighborhoods of under-served working class, and poor. The Drs. Yee are dynamic young ophthalmologists with a social conscience working on a volunteer basis in conjunction with the Volunteer Optometric Services to Humanity (VOSH Pennsylvania Chapter), a US based PVO supporting a small eye clinic in the Peten region of Guatemala.

VISUALIZA seeks to expand their services to the under-served in Guatemala. Their vision is to "Eliminate and prevent all treatable forms of blindness in Guatemala City and surroundings areas," by providing the best eye care to all people regardless of their socio-economic status.

Currently, VISUALIZA performs approximately 350 cataract surgeries in Guatemala City renting an operating theatre from another institution. Services consist of consultation, surgery and refraction. Services are priced towards the middle class and wealthier patients and their costs are relatively high (cost of consumables is around US$70/- and their unit surgery coast is around US$265) due to inefficient purchasing and low patient volume, typical for the region.

A number of improvements are needed to increase volume, efficiency and quality and a detailed plan is under development.

- Created a non-profit NGO status
- Consolidate their clinic into a new building complete with a surgical suite.
- Increase staffing to include ophthalmic technicians, patient counselors, and management staff.
- Continue their orientation to sustainability planning through a technical exchange with LAICO/Aravind Eye hospital.
- Improve all aspects of management.

b. Agreement

A planning visit was conducted by Raheem Rahmathullah and David Green from August 18th – 28th 2001. Essential persons were consulted, services reviewed and a requested made to submit a proposal to IEF. Based on this proposal a partnership agreement was made for support from October 1st, 2001 through September 30th, 2002 for $40,000.

c. Plans 2002

GOVERNANCE/EXTERNAL RELATIONS/ PLANNING

1. Framework for VISUALIZA NGO autonomy established
   1.1. Evaluate governance structure and stakeholder interests
2. Organizational and financial sustainability plan developed
   2.1. Undertake a team visit to LAICO February 2002
   2.2. Assess program/ services
   2.3. Evaluate and model services and pricing

STRATEGIC, ORGANIZATIONAL, MANAGEMENT CAPACITIES

1. Physically move all operations to new building
2. Planning, reporting, monitoring and evaluation improved
   2.1. Establish management team
   2.2. Establish a monitoring and evaluation plan
3. Management of information for decision making improved
   3.1. Medical records system established and operational
4. Human resource management improved
   1.1. Hire new staff
   1.2. Develop Personnel Manual
2. Financial resource management improved
   2.1. Establish accounting, budgeting, procurement practices
   2.2. Conduct financial audits

SERVICE DELIVERY

1. Patient flow improved
   1.1. Out Patient Department organized
   1.2. Minor operations organized
   1.3. Operating Theater organized
2. Treatment and surgical services re-designed and differentiated
   2.1. 'High pay' patient service created
   2.2. 'Middle and Low pay' patient services created
3. Strategies for finding more patients developed
   3.1. Design, plan and conduct Cataract Screening Campaigns
4. Complementary patient services re-designed
   4.1. Refraction and Spectacle service re-designed
   4.2. Pharmacy service improved
   4.3. Maintenance services improved

6. Salvadoran Association for Rural Health (ASAPROSAR), Santa Ana, El Salvador

a. Background

The population of El Salvador is approximately 6,154,079 people of which 58% of the population is urban and 47% are below 20 years of age. There are 100 medical ophthalmologists distributed across the country of which 85% are located in the capital San Salvador. Upward to 30,000 persons annually could benefit from cataract surgery. However, the current National surgical volume is <5,000 annually. The National per capita income is approximately $1,979, but varies by region.

Because of the earthquakes in January and February 2001, there was severe damage to 23 hospitals and over 100 health centers in the country presenting tremendous challenges for social services such as housing, health and education.

The Salvadoran Association for Rural Health (Asociación Salvadoreña Pro-Salud Rural - ASAPROSAR) is a private non-profit non-governmental organization established to "Contribute to the integrated development with gender equality, assisting the empowerment of the poorest families in the rural and marginalized areas of El Salvador." ASAPROSAR was founded by Vicky Guzmán, M.D. and is located in the small city of Santa Ana 65 kilometers northwest of San Salvador. The organization began their activities in 1972 and gained their legal recognition in 1986. The primary activities include promotion of rural health through community health, development, and micro-credit financing. Other services include social services for children at risk, promotion of agriculture, reforestation and other environmental projects, and health. The Global Development Alliance (GDA), a US based PVO supports micro-credit and health activities.

ASAPROSAR manages a small hospital that provides a range of health care including eye care and dentistry. In general, the facilities and infrastructure are good. Services include consultation, surgery, and refraction. Approximately 400 surgeries are performed per year by five part-time visiting ophthalmologists. Most of the eye surgeries are performed on a day care basis, but beds are available if needed. The hospital currently generates revenue from patient fees.

A number of improvements are needed to increase volume, efficiency and quality including:

- Ophthalmic services need to be separated from general medicine and dental services located in the same area. The out patient area needs to be redesigned to improve patient flow.

- Full-time ophthalmologists, paramedical and patient counselors are required.

- Patient counselors need training and the ophthalmologists need exposure to suture-less cataract surgery or the tunnel surgery method.

- A management committee is needed to monitor all activities.

- There is no standardization of procedures on all levels.

- Patient revenue is generated, however, the pricing is confusing, high cost, and few patients are accessing services. The primary reason for the high costs are due to fees charged by the visiting ophthalmologists per case (70-80% of the revenue generated goes to the ophthalmologist towards surgery fees).

A detailed plan is being developed.

b. Agreement

A planning visit was conducted by Raheem Rahmathullah and David Green August from 26th – 29th, 2001. During this time, the key persons were consulted and ASAPROSAR's services reviewed. During this visit a representative of the Global Development Alliance accompanied IEF. ASAPROSAR was requested to submit a proposal to IEF for review. Based on this proposal a partnership agreement was made for support from December 5th 2001 through June 4th, 2003 for $35,000.

c. Plans 2002

Included in the agreement is support for ASAPROSAR to send a team to visit the LAICO/Aravind Eye Hospital during April/May 2002 for further orientation and training. Follow up visits are planned for early 2002.

GOVERNANCE/EXTERNAL RELATIONS/ PLANNING

1. Framework for eye department autonomy established
   1.1. Evaluate governance structure and stakeholder interests
2. Organizational and financial sustainability plan developed
   2.1. Undertake a team visit to LAICO April 2002
   2.2. Assess program/ services
   2.3. Evaluate and model services and pricing

STRATEGIC, ORGANIZATIONAL, MANAGEMENT CAPACITIES

1. Planning, reporting, monitoring and evaluation improved
   1.1. Establish management team
   1.2. Establish a monitoring and evaluation plan
   1.3. Management of information for decision making improved
2. Medical records system established and operational

3. Human resource management improved
    3.1. Hire and train new staff
    3.2. Develop Personnel Manual
    3.3. Financial resource management improved
    3.4. Establish accounting, budgeting, procurement practices
    3.5. Conduct financial audits

SERVICE DELIVERY

1. Patient flow improved
    1.1. Out Patient Department organized
    1.2. Minor operations organized
    1.3. Operating Theater organized
2. Treatment and surgical services re-designed and differentiated
    2.1. 'High pay' patient service created
    2.2. 'Middle and Low pay' patient services created
    2.3. Develop protocols and standardize all processes
3. Strategies for finding more patients developed
    3.1. Design, plan and conduct Cataract Screening Campaigns
4. Complementary patient services re-designed
    4.1. Refraction and Spectacle service re-designed
    4.2. Pharmacy service improved
    4.3. Maintenance services improved

IV. Management

Organization and planning

1. Staffing

No major changes to the management team occurred during the reporting period. However, after a long process, contracting Mr. Raheem Rahmathullah, from the Aravind eye hospital was finalized during this reporting period. Prior to May 2001, Mr. Rahmathullah worked for IEF on a consultant basis until IEF was able to finalize processing of an H1-B Visa that allows him to live in the USA. Mr. Rahmathullah make country site visits while continuing to live in Madurai, India. The H1-B application negotiation proved to be a lengthy year-long process. Mr. Rahmathullah moved to the Washington D.C. area with his wife and is now an employee of the IEF.

2. Partners

During this reporting period IEF completed the partner identification process and signed formal agreements with a total of three new hospitals, and two collaborating institutions. Other potential hospitals are identified for receiving IEF assistance, and several other hospitals are requesting assistance. To date, there are six SightReach® Management sustainability partners. A total of $587,578 is obligated to partners and $159,114 is disbursed as of December 31st, 2001.

Table 9: Current partners

	Partner	Agreement & Funding	Purpose & Effort	Characteristics
1	Malawi – Lions SightFirst Eye Hospital, Lilongwe	$152,587 36 months Jan 01 Dec 04	Re-design services existing services.	Medium size; department of government hospital; major governmental and donor support.
2	Egypt – Al Noor Foundation, El-Magraby Eye Hospital, Cairo	$160,000 24 months May 01 April 03	Start up new 30 bed low pay hospital.	Large size; private hospital and organization.
3	Guatemala – VISUALIZA, Guatemala City	$40,000 12 months Oct 01 Sept 02	Start up new private clinic.	Small size; private, non-governmental organization; some external donor support.
4	El Salvador – Salvadoran Association for Rural Health, ASAPROSAR, San Salvador	$35,000 18 months Jan 02 June 03	Re-design existing services.	Small size; private, non-governmental organization; some government and external donor support.
5	India – Lions Aravind Institute of Community Ophthalmology (LAICO	$150,000 33 months Oct 01 June 04	Institutional strengthening & tools development	Large size; private, non-governmental organization; some external donor support.
6	Tanzania – Kilimanjaro Center for Community Ophthalmology (KCCO), Moshi	$50,000 12 months Oct 01 Sept 02	Re-design existing services	Small size; New non-governmental organization; small donor support.
	Total obligated to date	**$587,578**		

Four of the six partners are hospitals (1-4 on the list) actively engaged in sustainability planning and two (5-6 on the list) are supporting institutions providing complementary services, i.e., developing tools etc, needed to engage hospital partners effectively. The LSFEH and the El Magraby hospitals have larger budgets over a longer period than the other sustainability partners due to the comprehensive re-design effort required. Although the VISUALIZA and ASAPROSAR partners have smaller budgets, increases to the sub-grants may be necessary as unanticipated needs are revealed and to ensure that the organizational sustainability objectives are met.

Management of the partner plans and budgets requires IEF to be flexible as many problems and constraints cannot be anticipated nor is implementation of all activities in the control of IEF. Implementation of plans is dependent on the leadership and management by each partner. The role of IEF is to facilitate, advise, problem solve and at times intervene to ensure progress.

Typically, multiple visits by one or more persons to each partner are needed. Some of the visits by Mr. Rahmathullah to partner hospitals are extended periods ranging from two to six weeks. The budget for staff time and travel will need to be increased during 2002. The amount of time needed to work with partners may be a limiting factor to increasing the number of new partners over time.

The quality of reporting by partners is mixed. Each is required to communicate regularly (monthly by fax or email) and provide basic reports including a financial report on a quarterly basis. Receipt of accurate, complete, and timely reports continues to be a challenge and will be a major area for improvement during 2002.

The IEF is also playing an important coordination function with the supporters (government, donors etc) of each partner encouraging better investment of their resources to the sustainability plans. In some cases, the support needed is not available or the donor is unwilling to modify their plans, for whatever reasons, thus making it necessary for IEF to be flexible in its support.

3. Future plans

There are a growing number of potential partner hospitals expressing interest in the sustainability planning process. The following is a short list of possible investment during 2002 dependent on a number of factors.

Table 10: Potential partners

	Potential Partners	Agreement & Funding	Purpose & Effort	Characteristics
1	Malawi – Queen Elizabeth Central Hospital, Blantyre Under consideration	To be determined but estimated at $25,000	Re-design existing services	Medium size; department of government hospital; major governmental and donor support.
2	Tanzania – Kilimanjaro Christian Medical Center, Moshi Under consideration	To be determined but supplement estimated at $50,000	Re-design existing services	Medium size; department of non-government hospital; major governmental and donor support.
3	Bulgaria – Bulgarian Eye Foundation, Sofia	To be determined but estimated at $50,000	Start up new private clinic	Small size; private non-governmental organization; some external donor support
4	Bolivia – InterVision, La Paz Under consideration	To be determined but estimated at $75,000	Start up new clinic	Small size; private non-governmental organization; some external donor support
	Potential obligation	**$200,000**		

As discussed above, the Eye Department of the Queen Elizabeth Central Hospital, in Blantyre, Malawi is the recipient of a large grant from the Lions SightFirst program to construct a new hospital and re-design its service and management systems in a similar manner as the LSFEH in Lilongwe. Investing in the QECH is a natural extension of the activities already underway in Malawi.

In Tanzania, the Kilimanjaro Center for Community Ophthalmology (KCCO) was recently started through former IEF colleagues and is based at the Kilimanjaro Christian Medical Center. IEF is already investigating the potential of the KCMC as a sustainability partner and is a logical extension to the KCCO activities.

IEF also has numerous existing relationships, e.g., Bulgarian Eye Foundation, InterVision, Bolivia and others with which the sustainability planning approach is within IEF's strategic interests and are suitable partners for sustainability planning. During early 2002, decisions will be made on the number of new partners that can be supported given IEF's limited manpower capacity and resources. A major consideration is the division of sub-grant funding between the SightReach® management sustainability partners and the continuation of the "Seeing 2000" pediatric eye care grants expected to continue beginning March 2002.

Financial Report

The total SightReach® program consists of several components summarized below and the attached detailed spreadsheets.

1) SightReach® Management promoting financial sustainability (reported in this report)
2) SightReach Surgical® IEF's social enterprise (reported in a separate report)
3) "Seeing 2000" revised and expanded for support of pediatric eye care (not operational until March 2002)

Budget expenditure

The total budget for the Matching Grant (Cooperative Agreement No.: FAO-A-00-99-00053-00) is $2,725,567 of which USAID is allocating $2,000,000 and IEF is matching $725,567 in cash.

Overall, the budget is composed of two sections 1) headquarters and related expenses ($1,000,000), and 2) partner sub-grants ($1,000,000). The budget through December 31st 2001 is under spent on the USAID side and on track on the IEF side.

Headquarters: The headquarters expenditure is on track with approximately 44% (27/60 months) of the projected annual budget spent. Expenses are primarily for planned personnel, consultants, travel and per diem costs.

Sub-grants: The under expenditure is due to fewer partner agreements established than planned during 2001. However, as of December 31st, all partner agreements are in place obligating $587,578 of which $159,114 is transferred.

The balance remaining for sub-grants is intended to be for the expanded "Seeing 2000" program for pediatric blindness, which is not intended to be operational until March 2003 after the existing Cooperative Agreement for "Seeing 2000" is completed. All of the funding for sub-grantees will be obligated to partners during 2002 and partner expenditure monitored. See Table 12 below.

Cost sharing status

There is considerable cost sharing demonstrated in the program to date. IEF is matching the total budget in cash as planned. However, it should be noted that IEF's fundraising returns are 35% less since September 11th, 2001. A renewed effort to increase un-restricted income is underway. Additionally, it should also be noted that the funding provided to sub-grantees represents only part of each partner's total resources supporting their operations. Even in the case of the LSFEH, the government input represents >60% of the total calculated annual expenditure for the hospital operations. Other partners such as Al Noor/El-Magraby have invested much greater amounts to build a building, and cover fixed and variable costs. During 2002, IEF will calculate all partner(s) contribution to document the total program costs.

Table 11: Summary pipeline analysis

	Agreement 9/30/99 - 9/29/04		Expenditure 9/30/99 - 12/31/01		Balance 1/1/02 - 9/29/04	
Total Grant	AID	IEF	AID	IEF	AID	IEF
Personnel	429,543	412,044	119,716	124,179	309,827	287,865
Travel PD	161,512	-	20,226	24,065	141,286	(24,065)
Consultancies	200,637	95,000	46,576	31,682	154,061	63,318
Procurement	1,053,382	103,000	176,861	74,141	876,521	28,859
ODC	22,005	32,770	2,024	13,792	19,981	18,978
Indirect	132,921	82,753	62,764	49,333	70,157	33,420
Total	2,000,000	725,567	428,167	317,192	1,571,833	408,375
			21%	44%	79%	56%
SightReach Management						
Personnel	158,551	170,613	46,756	46,853	111,795	123,760
Travel PD	95,197	-	12,703	16,082	82,494	(16,082)
Consultancies	200,637	-	46,576	31,682	154,061	(31,682)
Procurement	544,593	3,000	173,586	55,324	371,007	(52,324)
ODC	11,107	21,770	1,878	6,007	9,229	15,763
Indirect	78,043	29,032	45,126	29,396	32,917	(364)
Total	1,088,128	224,415	326,625	185,344	761,503	39,071
			30%	83%	70%	17%
SightReach Surgical						
Personnel	152,237	169,491	72,960	77,324	79,277	92,167
Travel PD	48,481	-	7,523	8,316	40,958	(8,316)
Consultancies	-	95,000	-	-	-	95,000
Procurement	6,840	100,000	3,274	18,816	3,566	81,184
ODC	7,000	18,000	146	7,454	6,854	10,546
Indirect	33,038	42,693	17,639	19,936	15,399	22,757
Total	247,596	425,184	101,542	131,846	146,054	293,338
			41%	31%	59%	69%

SightReach Seeing 2000						
Personnel	118,755	71,940			118,755	71,940
Travel PD	17,834	-			17,834	-
Consultancies	-	-			-	-
Procurement	501,949	-			501,949	-
ODC	3,898				3,898	
Indirect	21,840	11,028			21,840	11,028
Total	664,276	82,968	-	-	664,276	82,968

Table 12: Sub-grantee expenditure plan

				1999	2000	2001	2002	2003	2004
Partner	*Agree dates*	*Mos*	*Budget*	*3 mos*	*12 mos*	*12 mos*	*12 mos*	*12 mos*	*9 mos*
LSFEH	01/01/01 – 12/30/03	36	152,578	*25,000	*25,000	75,682	36,648	38,248	
KCCO	10/01/01 – 09/30/02	12	50,000	-	-	25,000	75,000		
El-Magraby	05/01/01 – 04/30/03	24	160,000	-	-	40,900	80,000	39,100	
LAICO	10/01/01 – 06/30/04	33	150,000	-	-	7,532	64,838	52,714	24,916
VISUALIZA	10/01/01 – 09/30/02	12	40,000	-	-	10,000	30,000		
ASAPROSAR	12/05/01 – 06/04/03	19	35,000	-	-		30,000	5,000	
Subtotal		136	587,578			159,114	316,486	135,062	24,916
New grants			412,422				90,000	185,000	137,422

* Activity was initiated using other funding.

V. Lessons Learned

There are numerous problems, constraints, and lessons encountered during the reporting period. The following are general and specific observations built on the previous years reporting.

1. Awareness building:

There continues to be considerable misunderstanding over the purpose, process, and results of 'sustainability planning.' Some of the partners (LSFEH and the Ministry of Health) viewed the proposed activity as a supplemental 'cost recovery' project dividing service delivery into 'paying vs. free' services. Even with the private non-governmental organizations, the funding collected from user fees are often collected into a 'sustainability fund' and are not planned and managed as part of a larger organizational and financial plan. Regardless of whether the partner is quasi-governmental or private, each has undergone a process of deepening awareness of the major efforts needed to re-design their services and demonstrate that even the poor, are willing to pay for good quality services. Due to continuing misunderstanding, many stakeholders, primarily the supporting international non-governmental organizations, continue to require persuasion that this approach can be successful.

2. Change implications:

As our relationships with partners matures a greater understanding of the crucial elements needed for change and management of the transition period are developing:

- Leadership from the hospital director and from the NGDO continues to be essential. The leadership should be able to share the goals of the redesign process and communicate the corresponding plans and expectations of staff. The leadership must also provide an open discussion with employees and seek employee input. Another important aspect of the leadership function is the grooming of the next generation of leadership. Many of the partners tend to be too strong and delegate too little to the next level of management.

- Time and resources: More time and effort are required per partner than planned. Several visits from one to several weeks by more than one person are required to develop the relationships, develop plans, and assist the partners implement. Although frequent email and telephone communication is made, on-site consulting is more effective. Some partners require more input than others due to the amount of change needed and the effectiveness of the leadership.

- Extent of change: The time and resources invested are dependent on the extent of the changes needed. In the case of the LSFEH, nearly every system requires attention as many systems are weak or did not exist (accounting and management etc). However, even with the non-governmental organizations (El Magraby) that start with more resources and expertise, changes are slow due to internal organizational conflict. It remains unclear whether the quasi-governmental vs. non-governmental organization; or organization complexity, size and leadership are predictors of faster change.

- Governance: A strong organizational identity and structure are needed that supports management and service delivery. However, several of the partners have little or at best ambiguous governing structures. In the case of the El Magraby hospital, there is a strong organization behind the Low Pay hospital, although upper management needs to provide the Low Pay hospital the authority to govern itself. In the case of the other partners, the organizational identify is by name only or dependent on an individual or a hand full of persons acting as a Board of Directors. Often there is no Board of Directors or effective management committee needed to provide policy and direction for the hospital or clinic.

- Management: Strengthening the organizations management capability is essential to any program but is typically weak. In the majority of partnerships, there is no position of Manager that has authority over staff, supplies, and financial resources. In such cases these positions have to be created. Secondly, there are few or weak management and administrative policies and systems in place. Accounting, human resource development, and planning, monitoring and evaluation systems are weak.

- Human resources: In the majority of the partner's case, there is the need for more ophthalmologists, nurses, technical, and administrative staff. Cost recovery is dependent on increasing the surgical volume and volume is dependent upon the number of available staff. There is also an overall shared problem of under utilization of existing staff at each hospital. Staff inefficiency is common and there is little accountability by management to perform. Typically, there are weak personnel policies and systems for managing and evaluating staff, little if any staff training, and poor remuneration and promotion opportunities.

- Coordination: Beginning at the upper management to the storeroom clerk, coordination of activities is essential to implementing plans. However, there is weak coordination and communication within the majority of partners. In addition to the general lack of coordination, there are often competing needs for staff and programs. Often the department's nursing staff report directly to the Nurse Matron who reports to the parent hospital, as is the case with the quasi-governmental and large non-governmental partners (LSFEH and potentially the KCMC). In other cases, there are outreach surgical programs that are dependent on taking the ophthalmologist and other staff away from the base hospital for several days several times per year. In such cases, and where there are a limited number of surgeons, the surgical services of the base hospital are put on hold until the surgeon returns. Thus, greater coordination between the hospital and its external donors is needed.

- Human resources: The program reinforces the central need for more ophthalmologists and nurses. Cost recovery is dependent on increasing volume and volume is dependent upon the number of available surgeons, and support staff. An additional problem noted is the lengthy period needed to train new staff through the accredited institutions. Three to four years are needed to train ophthalmologists in most residency programs and two to three years to train nurses. Often the quality of the graduate is poor and these graduates require additional in-service training. The concept of training technicians remains unacceptable to the majority of partner institutions.

- Optical services: The development of self-sustaining optical services is important to complement surgical services and support institutional growth. In the case of the partners in very poor countries, fees generated from out patient services and cataract surgery is not sufficient to cover operating costs. This is due to the large number of patients too poor to pay for services and the relatively small number of wealthier patients who do pay fees. Yet even in these poor countries, the general public desires optical services, and due to the greater profit margin and lower operational costs, optical services are profitable. In a country like Malawi, optical services are providing >85% of the revenue and are less complicated and costly to manage. Developing new experience and relationships to establish and manage optical services requires additional resources, planning and coordination between IEF and its partners.

3. Technical assistance:

Due to the complicated re-design effort with the majority of partners, technical support visits require frequent and longer periods in-country. Given the limited IEF staffing, there is a limit to the number of new partners IEF can accept as SRM partners. There also continues to be the need for planned exchange visits between the partner hospital and the Lions Aravind Institute for Community Ophthalmology (LAICO). Several partners have now visited LAICO to attend their basic management course and other specialized surgical training. An Aravind and LAICO team have also made on-site visits to LSFEH and the El Magraby Eye Hospital (South to South development) to demonstrate high volume surgical methods and efficient outreach screening campaigns. These visits have also benefited Aravind/LAICO providing new experience for their staff different than that in India.

There is a continuing need to provide a combination of IEF and Aravind/LAICO technical exchange visits. Thus, it is becomes important to find ways to make the exchange visits more efficient and effective. IEF needs to find ways to lessen dependence on the services of LAICO. IEF is now evaluating how to develop a regional cadre of persons and organizations that are capable of providing technical assistance within a regional context. These resources will allow IEF to respond to the increasing requests for assistance in Latin America, Africa, and Eastern Europe.

4. Policy implications:

As experience continues to develop a number of policy implications related to development of 'standard practice' are becoming better focused.

- Surgery: There has been a nearly universal acceptance by ophthalmologists to adopt the Extra Capsular Cataract Extraction and Intra-Ocular Lens Implantation wherever possible. Although cataract surgical technique varies, several partners are practicing a 'small incision, manual phaco' technique that is a rapid and reliable surgery.

- Management: There is a growing but still small acceptance of establishing productivity and efficiency standards for performance of internal processes of the hospital (out-patient, wards, operating theatre, outreach etc).

- Target beneficiaries: Based on recent research, there is growing recognition that women bear a disproportionate burden of blindness (2/3rds) and service delivery efforts need to be modified.

- Indicators and Targets: As IEF's experience grows, it is becoming clearer as to how to set realistic targets. For example, the estimates for the percentage increase in surgery or the total revenue earned are based on the best-planned guess. As the number of partners increases, their respective performance is revealed. Revision to each partner's sustainability plans must remain flexible and reviewed several times per year.

- Costs: There is a keen interest among the internal eye care community to understand the investment costs needed to achieve the productivity and sustainability objectives. IEF will require additional assistance to evaluate this beginning during the Mid-term evaluation exercise planned in the fall of 2002.

5. Documentation:

Although numerous reports are generated, due to the complexity of the program IEF realizes further effort is needed to summarize information from multiple sources in order to document these change experiences. The internal partner reporting process needs further strengthening to provide timely, complete, and accurate reports. IEF's intervention during the planning period also requires strengthening. Continued efforts to developing standard planning, reporting and documentation tools will be a priority during 2002. This will help IEF and its partners to understand better how to increase the number of partners over time (replicate) and understand better the crucial elements needed to achieve organizational, service, and financial sustainability.

VI. Attachments

1. Work plan Gantt chart
2. Financial data: Detailed pipeline analysis
3. Resume - Martha Moore
4. Accounting spreadsheet
5. Emily story